# INDEX TO VOLUME CII.

TP700
.A5

January 1 to June 30, 1915.

An Asterisk (*) Denotes an Illustrated Article.


## A

Accidents That Could Have Been Prevented, by J. B. Douglas ..... 138, 372
Address of George B. Cortelyou, President of the Consolidated Gas Company, at the Mid-Year Conference, National Commercial Gas Association... 393
Address of President A. C. Blinn, Indiana Gas Association ..... 178
Address of President Charles A. Learned, New England Association of Gas Engineers..... 129
*Address of President Dutton, Pennsylvania Gas Association ..... 273
Address of President James H. Walker, Wisconsin Gas Association ..... 81
Address of President James T. Lynn, Natural Gas Association of America..... 353
Address of President L. H. Johnson, Illinois Gas Association ..... 193
Address of President S. E. DeFrese, Southern Gas Association ..... 385
Address of President Thomas Crawford, Iowa District Gas Association..... 374
Address of Thomas N. McCarter, at the Minneapolis Convention, National Commercial Gas Association. 115
Advertising, Direct ..... 44
Advertising Influence of Public Service Employees, by R. O. Jasperson..... 359
Affiliation with the Institute, Report of Committee on, Illinois Gas Association..... 212
*Alexander, M. W., N. A. S. O. Standard First Aid Jar, The ..... 11
Ammonia Plant for Russian Gas Works, by "Our Own Correspondent" ..... 101
Ammonia Vapor, Explosion of..... 91
*Are Cooking Classes Popular?..... 324
"Automatic Operation of a Water Gas Set, The, by C. F. Zeek..... 395
Average Gas, Sampling for..... 317

## B

*Babcock, C. B., Gas Lighting at the Panama-Pacific International Exposition..... 234
Bartlett, C. E., Water Heating by Gas..... 310
Bell, Dr. Louis, Reflection from Painted Surfaces... 91
Benzol as a Motor Fuel..... 98
*Benzol in Gas, Determining the, by Dr. A. Krieger. 299
*Blast Furnace Gas to Heat Coke Ovens..... 135
Blinn, A. C., President Indiana Gas Association, Address of ..... 178
*Boardman, C. C., By-Product Coke Oven Plant, Experience with a ..... 289
Boiler Cleaner, Zinc as a..... 365
Boiler Losses, A Study of..... 395
Boilers, Gas Fired, by Herr Birkholz..... 99
*Boughton, H. F., Electrical Carbonization of Coal: An Ideal Retort..... 315
Bradley, W. H., Industrial Appliance Business..... 210
Brewer, E. D., Gas Lighting, The Future of..... 402
Brewer, W. O., British Thermal Unit Losses on Medium Pressure Line..... 220
B. T. U. Losses by Compression..... 327
Bureau of Standards, Report of the Director of the.. 108
Burning Soft Coal Under Boilers..... 139
Butterworth, Wm. C., Cost and Price of Gas in a Small City, The..... 180
Butcher, Charles H., New Jersey Gas Progress..... 266
By-Product Coke Ovens, Application of, to the Gas Industry, by J. D. Forrest..... 186
By-Product Coke Ovens at Chattanooga, Tenn..... 114
*By-Product Ovens at Baltimore, Md..... 27

## C

Calhoun, W. J., Regulation..... 294
*Calorific Power, London Gas Referees' Regulations for Determining ..... 213
Carbonization in New England..... 362
Cash, B. K., Gas and Electricity for Illuminating Purposes, Comparative Costs of..... 167
Centrifugal Dehydration of Water Gas Tar at Amsterdam ..... 349
*Chapple, C. E., Die Casting..... 52
Chemistry of the Incandescent Gas Mantle, by Dr. H. S. Miner ..... 65
*Clark, Thomas S., Straightening a Tall, Leaning Factory Chimney ..... 331
Coal Gas Candle Power, by L. J. Willien..... 219
Coal Mined in 1914..... 26
*Coal Ranges, War on..... 77
Coal Supplies for English Gas Works..... 251
Coal Tar, Neutral Oil from..... 374
Coke, How to Burn..... 173
*Coke Ovens, Blast Furnace Gas to Heat..... 135
Coke Ovens, Temperature Conditions in..... 61
Coke Ovens, By-Product, at Chattanooga, Tenn..... 114
Coking Process, Theory of the..... 90
Colored Fabrics, Effects of Gas Light Upon..... 116
Commercial Department, How the Shops Can Assist the, in Promoting Friendly Relations with the Public, by H. E. Turner..... 380
Comparative Values of Increasing Vacuum and Steam Pressure ..... 285
Complaint Man, The, by E. J. De Marsh..... 401
Compression, B. T. U. Losses by..... 327
Concrete Pile Foundation..... 235
*Concrete Pile Holder Foundation, at Lynn, The, by Francis E. Drake..... 163
Confidence and Men, by John Gribbel..... 231
Conroy, J. P., Free Maintenance of All Gas Lamps by the Gas Companies..... 119
Consumer's Point of View, The Gas Company from the, by J. H. Ingwersen..... 411
Continuous Meter Reading and Discount System in Fond du Lac, by F. G. Maxwell..... 205
Contracts for Street Lighting..... 2
Cooking, Electric, in Apartment Houses..... 242

CORRESPONDENCE—

Special English Correspondence, 72, 137, 201, 265, 345, 409
Cortelyou, George B., President of the Consolidated Gas Company, Address of, at the Mid-Year Conference, National Commercial Gas Association... 393
Crafts, H. C., Maintenance of House Burners..... 247
Cranfield, William, Modern Gas Composition, Essentials of ..... 307
Crude Oil, Synthetic..... 156
Crawford, Thomas, President Iowa District Gas Association, Address of..... 374
*Crude Tar, Fractional Collection of, by G. T. Purves. 387
Current, Need Not Supply Special..... 60
Customers, Relations with..... 149

## D

De Frese, S. E., President Southern Gas Association, Address of ..... 385
De Marsh, E. J., Complaint Man, The..... 401
*Determining Calorific Power, London Gas Referees' Regulations for ..... 213
Dewey, F. S., Industrial Gas Problems..... 391
*Die Castings, by C. E. Chapple..... 52
*Differential Rates, Report of Committee on, National Commercial Gas Association, F. W. Frueauff, Chairman ..... 18
Direct Addvertising ..... 44
Direct Advertising in the Gas Business, by A. R. Fernald ..... 198
Discoloration of Sulphate of Ammonia..... 92
*Displays, Hazleton, Pa..... 283
*Distillation of Water, The, by G. W. McKee..... 404
*Distribution Employees, The Improvement of, by C. E. Reinicker..... 33
"Distribution," Report of the Committee on, Iowa District Gas Association..... 403
*Domestic Fuel Appliances from the Consumers' Point of View ..... 70
*Domestic Science Department, Brooklyn Union Gas Company, by Jean S. Remy..... 97
Domestic Uses of Gas, by J. H. Gaylord..... 298
Douglas, J. B., Accidents That Could Have Been Prevented ..... 372
Dow, J. S., Science in the Daily Press..... 397
*Dow, J. S., Show Window Lighting in War Time.. 305
*Drake, Francis E., Concrete Pile Holder Foundation at Lynn, The ..... 163
Dudley, A. D., Small Consumer a Problem, The..... 332
Dye Industry, Intermediate Products for the..... 139

## E

EDITORIALS—

American Coal Tar Dyes..... 120
Analyze Your Business..... 184
Announcement ..... 8
Annual Show, The National Commercial Gas Association ..... 104
Appraising the Personnel..... 24
Are We Conservative?..... 344
Attracting Young Men to the Industry..... 232
Beal Medal Committees..... 153
British Gas Undertakings..... 217
Brooklyn Union Gas Company's Domestic Science Division ..... 41
Character, Mr. Gribbel on..... 89
Chemicals and Dyes, Resumption of Imports of... 104
Correction, A ..... 88
Costly Experiments that Few Heed..... 56
Counterfeiting Nature's Processes..... 24
Courtesy Counts ..... 408
Dependability ..... 328
Directors' Meeting, American Gas Institute..... 216
Dye Situation, The..... 56
Electric Cooking ..... 248
Empire State Gas and Electric Association Meeting ..... 312
Engineering Foundation, The..... 40
Engineering Foundation for the Advancement of the Arts and Sciences..... 88
Engineer Needed, The..... 296
English Gas Works Shelled..... 8
Enterprise, A Check on..... 248
Exhibitors at San Francisco..... 24
Fair, Institute Meeting and Gas Congress, The.. 216
Gas Consumer Plant..... 105
Gas "Meeters," New York..... 136, 200
Gas Range Week..... 297
Gas Troubles in England..... 104
German Dyes and Foreign Industries..... 232
Hambleton, Francis H., Society of Gas Lighting Resolution on Death of..... 329
High Pressure Distribution..... 56
Illinois Gas Association, Special Telegraphic Report ..... 185
Illuminating Engineering Society..... 184, 248
Illuminating Engineering Society Council Meeting ..... 392
Illuminating Engineering Society Elections.. 296, 377
Illuminating Engineering Society Meetings..... 120
Illuminating Engineering Society, New York Section ..... 40, 312
Imported Opinion..... 24
Improved Appliances..... 88
Indiana Gas Association, Special Telegraphic Report ..... 169
Industrial Chemistry ..... 72
Industrial Fuel Data..... 8
Institute Directors' Meeting..... 88, 168, 264, 344
Iowa District Gas Association Meeting, Special Report ..... 360
Joint Lighting Meeting in New York..... 264
Joint Testing Laboratory, A..... 104
Lamson, Charles Dudley..... 281
Lighting, You Must Keep the..... 152
Maryland Standard Set at 600 B. T. U..... 280
Massachusetts Appointments, The..... 24
Merchandizing the Issue!..... 296
Misleading Publicity, To Correct..... 216
Municipal Ownership not so Popular..... 120
National Association of Manufacturers..... 313
National Commercial Gas Association Class, The Largest ..... 200
National Commercial Gas Association Directors' Meeting ..... 152, 264
National Commercial Gas Association May Meeting, Board of Directors..... 344

# INDEX TO VOLUME CII.

TP700
.A5

January 1 to June 30, 1915.

An Asterisk (*) Denotes an Illustrated Article.


## A

Accidents That Could Have Been Prevented, by J. B. Douglas ..... 138, 372
Address of George B. Cortelyou, President of the Consolidated Gas Company, at the Mid-Year Conference, National Commercial Gas Association... 393
Address of President A. C. Blinn, Indiana Gas Association ..... 178
Address of President Charles A. Learned, New England Association of Gas Engineers..... 129
*Address of President Dutton, Pennsylvania Gas Association ..... 273
Address of President James H. Walker, Wisconsin Gas Association ..... 81
Address of President James T. Lynn, Natural Gas Association of America..... 353
Address of President L. H. Johnson, Illinois Gas Association ..... 193
Address of President S. E. DeFrese, Southern Gas Association ..... 385
Address of President Thomas Crawford, Iowa District Gas Association..... 374
Address of Thomas N. McCarter, at the Minneapolis Convention, National Commercial Gas Association. 115
Advertising, Direct ..... 44
Advertising Influence of Public Service Employees, by R. O. Jasperson..... 359
Affiliation with the Institute, Report of Committee on, Illinois Gas Association..... 212
*Alexander, M. W., N. A. S. O. Standard First Aid Jar, The ..... 11
Ammonia Plant for Russian Gas Works, by "Our Own Correspondent" ..... 101
Ammonia Vapor, Explosion of..... 91
*Are Cooking Classes Popular?..... 324
"Automatic Operation of a Water Gas Set, The, by C. F. Zeek..... 395
Average Gas, Sampling for..... 317

## B

*Babcock, C. B., Gas Lighting at the Panama-Pacific International Exposition..... 234
Bartlett, C. E., Water Heating by Gas..... 310
Bell, Dr. Louis, Reflection from Painted Surfaces... 91
Benzol as a Motor Fuel..... 98
*Benzol in Gas, Determining the, by Dr. A. Krieger. 299
*Blast Furnace Gas to Heat Coke Ovens..... 135
Blinn, A. C., President Indiana Gas Association, Address of ..... 178
*Boardman, C. C., By-Product Coke Oven Plant, Experience with a ..... 289
Boiler Cleaner, Zinc as a..... 365
Boiler Losses, A Study of..... 395
Boilers, Gas Fired, by Herr Birkholz..... 99
*Boughton, H. F., Electrical Carbonization of Coal: An Ideal Retort..... 315
Bradley, W. H., Industrial Appliance Business..... 210
Brewer, E. D., Gas Lighting, The Future of..... 402
Brewer, W. O., British Thermal Unit Losses on Medium Pressure Line..... 220
B. T. U. Losses by Compression..... 327
Bureau of Standards, Report of the Director of the.. 108
Burning Soft Coal Under Boilers..... 139
Butterworth, Wm. C., Cost and Price of Gas in a Small City, The..... 180
Butcher, Charles H., New Jersey Gas Progress..... 266
By-Product Coke Ovens, Application of, to the Gas Industry, by J. D. Forrest..... 186
By-Product Coke Ovens at Chattanooga, Tenn..... 114
*By-Product Ovens at Baltimore, Md..... 27

## C

Calhoun, W. J., Regulation..... 294
*Calorific Power, London Gas Referees' Regulations for Determining ..... 213
Carbonization in New England..... 362
Cash, B. K., Gas and Electricity for Illuminating Purposes, Comparative Costs of..... 167
Centrifugal Dehydration of Water Gas Tar at Amsterdam ..... 349
*Chapple, C. E., Die Casting..... 52
Chemistry of the Incandescent Gas Mantle, by Dr. H. S. Miner ..... 65
*Clark, Thomas S., Straightening a Tall, Leaning Factory Chimney ..... 331
Coal Gas Candle Power, by L. J. Willien..... 219
Coal Mined in 1914..... 26
*Coal Ranges, War on..... 77
Coal Supplies for English Gas Works..... 251
Coal Tar, Neutral Oil from..... 374
Coke, How to Burn..... 173
*Coke Ovens, Blast Furnace Gas to Heat..... 135
Coke Ovens, Temperature Conditions in..... 61
Coke Ovens, By-Product, at Chattanooga, Tenn..... 114
Coking Process, Theory of the..... 90
Colored Fabrics, Effects of Gas Light Upon..... 116
Commercial Department, How the Shops Can Assist the, in Promoting Friendly Relations with the Public, by H. E. Turner..... 380
Comparative Values of Increasing Vacuum and Steam Pressure ..... 285
Complaint Man, The, by E. J. De Marsh..... 401
Compression, B. T. U. Losses by..... 327
Concrete Pile Foundation..... 235
*Concrete Pile Holder Foundation, at Lynn, The, by Francis E. Drake..... 163
Confidence and Men, by John Gribbel..... 231
Conroy, J. P., Free Maintenance of All Gas Lamps by the Gas Companies..... 119
Consumer's Point of View, The Gas Company from the, by J. H. Ingwersen..... 411
Continuous Meter Reading and Discount System in Fond du Lac, by F. G. Maxwell..... 205
Contracts for Street Lighting..... 2
Cooking, Electric, in Apartment Houses..... 242

CORRESPONDENCE—

Special English Correspondence, 72, 137, 201, 265, 345, 409
Cortelyou, George B., President of the Consolidated Gas Company, Address of, at the Mid-Year Conference, National Commercial Gas Association... 393
Crafts, H. C., Maintenance of House Burners..... 247
Cranfield, William, Modern Gas Composition, Essentials of ..... 307
Crude Oil, Synthetic..... 156
Crawford, Thomas, President Iowa District Gas Association, Address of..... 374
*Crude Tar, Fractional Collection of, by G. T. Purves. 387
Current, Need Not Supply Special..... 60
Customers, Relations with..... 149

## D

De Frese, S. E., President Southern Gas Association, Address of ..... 385
De Marsh, E. J., Complaint Man, The..... 401
*Determining Calorific Power, London Gas Referees' Regulations for ..... 213
Dewey, F. S., Industrial Gas Problems..... 391
*Die Castings, by C. E. Chapple..... 52
*Differential Rates, Report of Committee on, National Commercial Gas Association, F. W. Frueauff, Chairman ..... 18
Direct Addvertising ..... 44
Direct Advertising in the Gas Business, by A. R. Fernald ..... 198
Discoloration of Sulphate of Ammonia..... 92
*Displays, Hazleton, Pa..... 283
*Distillation of Water, The, by G. W. McKee..... 404
*Distribution Employees, The Improvement of, by C. E. Reinicker..... 33
"Distribution," Report of the Committee on, Iowa District Gas Association..... 403
*Domestic Fuel Appliances from the Consumers' Point of View ..... 70
*Domestic Science Department, Brooklyn Union Gas Company, by Jean S. Remy..... 97
Domestic Uses of Gas, by J. H. Gaylord..... 298
Douglas, J. B., Accidents That Could Have Been Prevented ..... 372
Dow, J. S., Science in the Daily Press..... 397
*Dow, J. S., Show Window Lighting in War Time.. 305
*Drake, Francis E., Concrete Pile Holder Foundation at Lynn, The ..... 163
Dudley, A. D., Small Consumer a Problem, The..... 332
Dye Industry, Intermediate Products for the..... 139

## E

EDITORIALS—

American Coal Tar Dyes..... 120
Analyze Your Business..... 184
Announcement ..... 8
Annual Show, The National Commercial Gas Association ..... 104
Appraising the Personnel..... 24
Are We Conservative?..... 344
Attracting Young Men to the Industry..... 232
Beal Medal Committees..... 153
British Gas Undertakings..... 217
Brooklyn Union Gas Company's Domestic Science Division ..... 41
Character, Mr. Gribbel on..... 89
Chemicals and Dyes, Resumption of Imports of... 104
Correction, A ..... 88
Costly Experiments that Few Heed..... 56
Counterfeiting Nature's Processes..... 24
Courtesy Counts ..... 408
Dependability ..... 328
Directors' Meeting, American Gas Institute..... 216
Dye Situation, The..... 56
Electric Cooking ..... 248
Empire State Gas and Electric Association Meeting ..... 312
Engineering Foundation, The..... 40
Engineering Foundation for the Advancement of the Arts and Sciences..... 88
Engineer Needed, The..... 296
English Gas Works Shelled..... 8
Enterprise, A Check on..... 248
Exhibitors at San Francisco..... 24
Fair, Institute Meeting and Gas Congress, The.. 216
Gas Consumer Plant..... 105
Gas "Meeters," New York..... 136, 200
Gas Range Week..... 297
Gas Troubles in England..... 104
German Dyes and Foreign Industries..... 232
Hambleton, Francis H., Society of Gas Lighting Resolution on Death of..... 329
High Pressure Distribution..... 56
Illinois Gas Association, Special Telegraphic Report ..... 185
Illuminating Engineering Society..... 184, 248
Illuminating Engineering Society Council Meeting ..... 392
Illuminating Engineering Society Elections.. 296, 377
Illuminating Engineering Society Meetings..... 120
Illuminating Engineering Society, New York Section ..... 40, 312
Imported Opinion..... 24
Improved Appliances..... 88
Indiana Gas Association, Special Telegraphic Report ..... 169
Industrial Chemistry ..... 72
Industrial Fuel Data..... 8
Institute Directors' Meeting..... 88, 168, 264, 344
Iowa District Gas Association Meeting, Special Report ..... 360
Joint Lighting Meeting in New York..... 264
Joint Testing Laboratory, A..... 104
Lamson, Charles Dudley..... 281
Lighting, You Must Keep the..... 152
Maryland Standard Set at 600 B. T. U..... 280
Massachusetts Appointments, The..... 24
Merchandizing the Issue!..... 296
Misleading Publicity, To Correct..... 216
Municipal Ownership not so Popular..... 120
National Association of Manufacturers..... 313
National Commercial Gas Association Class, The Largest ..... 200
National Commercial Gas Association Directors' Meeting ..... 152, 264
National Commercial Gas Association May Meeting, Board of Directors..... 344

# INDEX TO VOL. CII.


National Commercial Gas Association Membership Campaign ..... 312
National Commercial Gas Association Mid-Year Conference .....280, 361, 376, 392
National Commercial Gas Association, New England Section ..... 217
National Gas Range Week..... 169
Natural Gas Association Meeting..... 329
New England Association of Gas Engineers, Special Telegraphic Report ..... 121
New Jersey State Gas Association, Mid-Winter Meeting ..... 72
New York Commission Changes..... 168
New York Commission, Second District, Annual Report ..... 89
No Let-Up in Advertising: A Good Example.... 281
Of Great Importance..... 408
Oldest American Gas Association, The..... 136
One Commission Tries to Enforce Its Orders... 200
Panama-Pacific International Exposition Establishes a World's Record for Conventions and Congresses ..... 360
Pennsylvania Gas Association and Joint Meeting of the New Jersey State Gas Association, Special Editorial Report..... 249
Pennsylvania Gas Association Programme, Hotel Adelphia, Philadelphia, April 14, 15 and 16.. 233
Philadelphia Gas "Meeters" Hold Banner Meeting ..... 72
Prosperous 1915 ..... 8
Public Ownership, How Far Should It Extend? 297
Public Utility Bonds and National Banks..... 72
Put the Blame Where It Belongs..... 136
Quality, Standards of..... 56
Reasonable Gas Standard..... 312
Right of Appeal, The..... 376
Russell, D. R., Deceased..... 248
Safety Organization, No Company too Small for a 184
School Lighting, Committee on..... 8
Society of Gas Engineering Outing..... 408
Southern Gas Association Meeting at Isle of Palms, Special Report..... 360
Southern Gas Association to President Wilson... 408
Southwestern Electrical and Gas Association, Special Report ..... 375
Standard Gas Range and Fixture Specifications.. 184
Standards, Reasonableness of..... 328
Technical Literature, Classification of..... 392
"The Old Guard" ..... 248
Theorists Fail ..... 40
To be Read from the Sky..... 329
To Get All Sides..... 232
United Gas Improvement Company, The Investigation of the..... 136
Valve Locations ..... 88
Welfare Work ..... 88
Westchester Lighting Company, Cases..... 9
Why Must Their Competitors?..... 136
Write More and Honor More..... 8
Your Representative ..... 40
*Edmund, H. W., Gas Engine Business, The Immediate ..... 275
Education, The Benefits of, by H. Thurston Owens.. 278
*Electrical Carbonization of Coal: An Ideal Retort, by H. F. Boughton..... 315
Electric Cooking in Apartment Houses..... 242
*English Gas-Fired Melting Furnaces..... 139
English Gas Works, Coal Supplies for..... 251
*Exhaust Steam in a Water Gas Plant, Possible Economies from the Use of, by S. A. Reinhard and C. A. Schnerr..... 226
*Exhibition in a Small Town, An..... 373
*Experience with a By-Product Coke Oven Plant, by C. C. Boardman..... 289
Explosion of Ammonia Vapor..... 91
Explosives from Tar..... 279
Explosives from Tar Products..... 197


## F


Fernald, A. R., Direct Advertising in the Gas Business 198
Financial Notes.....16, 32, 48, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224, 240, 256, 272, 288, 304, 320, 336, 352, 368, 384, 400, 416
Financing Problems of Public Utilities Companies, by William H. Hodge..... 215
*Flag Raising, United Gas Improvement Company.... 397
Floy, Henry, Results of the War for Public Service Commissioners to Consider..... 60
Forrest, J. D., Application of By-Product Coke Ovens to the Gas Industry..... 186
*Fractional Collection of Crude Tar, by G. T. Purves 387
Free Maintenance of All Gas Lamps by the Gas Companies, by J. P. Conroy..... 119
Friendly Relations with the Public, How the Shops Can Assist the Commercial Department in Promoting, by H. E. Turner..... 380
*Fuel Appliances, Domestic, from the Consumers' Point of View..... 70
*Future Industrial Prospects..... 321


## G


Gas and Electricity for Illuminating Purposes, Comparative Costs of, by B. K. Cash..... 167
Gas Appliance Specifications, Standardization of.... 140
Gas Associations, Meeting Times of the Various (Advertising Section).....9, 21, 22, 23
Gas Company, from the Consumers' Point of View, The, by J. H. Ingwersen..... 411
Gas-Electric Fixtures, Is the Sale of, by Gas Companies, Desirable? by R. F. Pierce..... 69
*Gas Engine Business, The Immediate, by H. W. Edmund ..... 275
Gas Fired Boilers, by Herr Birkholz..... 99
*Gas-Fired Melting Furnaces, English..... 139
Gas in a Small City, The Cost and Price of, by Wm. C. Butterworth..... 180
Gas in Italy..... 162
*Gas in Large Volumes, The Measurement of, Committee Report, American Gas Institute, Dr. J. F. Wing, Chairman ..... 4
*Gas Kitchen Equipment of the Biltmore Hotel, The, by C. F. Herington..... 170
Gas Light, Effects of, upon Colored Fabrics..... 116
*Gas Lighting at the Panama-Pacific International Exposition, by C. B. Babcock..... 234
*Gas Lighting Development, by F. R. Hutchinson.. 356
Gas Lighting, The Future of, by E. D. Brewer..... 402
Gas Making in War Time..... 202
*Gas Plant, The St. Petersburg, Florida..... 241
Gas Problems, Industrial, by F. S. Dewey..... 391
Gas Range Efficiencies..... 269
*Gas Range Week..... 257
Gas Ranges, Rented..... 326
*Gas Range Week, How One Gas Company Advertised ..... 266
Gas Rates, by J. H. Maxon..... 203
Gas, Refrigeration by, by H. M. Soper..... 412
*Gas Show at Washington..... 355
Gas, War Prices for..... 246
*Gas Water Heater, The..... 337
Gaylord, J. H., Domestic Uses of Gas..... 298
German Association on Pressures..... 12
German Influence in Russian Gas Business..... 220
German Mantles via Holland..... 10
*Good Lighting Gives Prestige to the Product, by H. Thurston Owens ..... 209
Government is not Business..... 101
Grady, Stanley, Gas, What is Being Done by Manufacturers of Appliances to Encourage the Use of. 87
Gribbel, John, Confidence and Men..... 231


## H


Hartness, James, The Human Element..... 18
*Haynes, Pierre E., Chicago Street Lighting..... 316
*Hazleton (Pa.) Displays..... 283
*Herington, C. F., Gas Kitchen Equipment of the Biltmore Hotel, The..... 170
*Hewitt, Arthur, House Maintenance Service..... 39
*High Pressure Mains, Welding of, by J. D. Shattuck .....54, 66
Hodge, William H., Financing Problems of Public Utilities Companies ..... 215
How to Burn Coke..... 173
How to Select, Train and Hold Your Selling Force... 166
House Burners, Maintenance of, by H. C. Crafts... 247
Humphreys, Norton H., Special English Correspondence.....73, 137, 201, 265, 345, 409
*Huber, Frank, Inclined Retorts, Thirteen Years' Operation of ..... 102
Human Element, The, by James Hartness..... 18
*Hunter, C. W., New Coal Gas Installation at Fall River, The ..... 145
*Hutchinson, F. R., Gas Lighting Development..... 356


## I


Illuminating Engineering Society..... 57
*Inclined Retorts, by R. B. Richardson..... 306
*Inclined Retorts, Thirteen Years' Operation of, by Frank Huber ..... 102
Increased Gasoline Yield and Toluol from Petroleum. 156
Increasing Vacuum and Steam Pressure, Comparative Values of ..... 285
*Indoor Lighting, Report of National Commercial Gas Association Committee on, Sidney Mason, Chairman ..... 82
Industrial Appliance Business, by W. H. Bradley.... 210
Industrial Fuel Committee, Report of, National Commercial Gas Association, Henry O. Loebell, Chairman ..... 3
*Industrial Gas, by J. C. Shepard..... 194
Industrial Gas Problems, by F. S. Dewey..... 391
Industrial Rate Based on Maximum Demand..... 283
Ingwersen, J. H., Gas Company from the Consumers' Point of View, The..... 411
Iron in Water..... 362
Italy, Gas in..... 162
Items of Interest from Various Localities.... 14, 30, 46, 62, 78, 94, 110, 126, 142, 158, 174, 190, 206, 222, 238, 254, 270, 286, 302, 318, 334, 350, 366, 382, 398, 414
Intermediate Products for the Dye Industry..... 139
*Internal Combustion Turbine, The..... 324
International Gas Congress, The, by E. C. Jones..... 161


## J


Jasperson, R. O., Advertising Influence of Public Service Employees ..... 359
Johnson, L. H., President Illinois Gas Association, Address of ..... 193
Jones, E. C., International Gas Congress, The..... 161
Jones, E. C., Leaking Illuminating Gas on Bituminous Pavements, A Review of the Paper on the Effects of ..... 25


## K


*Knuckle Guard a Possible Hazard..... 300
Koppers Ovens, New, for Youngstown..... 349
*Krieger, Dr. A., Benzol in Gas, Determining the... 299


## L


*Lead Wool as Jointing Material, by C. E. Reinicker. 242
Leaking Illuminating Gas on Bituminous Pavements, A Review of the Paper on the Effect of, by E. C. Jones ..... 25
Learned, Charles A., President New England Association of Gas Engineers, Address of..... 129
*Lighting, Indoor, Reports of National Commercial Gas Association Committee on, Sidney Mason, Chairman ..... 82
*Lighting, Semi Indirect, A Popular Talk on, by Robert Ffrench Pierce..... 369
Lighting Tables for 1915, Public (Advertising Section).....7, 12, 22, 27
Lynn, James T., President Natural Gas Association of America, Address of..... 353


## M


*Maintenance Service, House, by Arthur Hewitt.... 39
Making Gas in War Time..... 202
Mantles, German, via Holland..... 10
Maxon, J. H., Gas Rates..... 203
Maxwell, F. G., Continuous Meter Reading and Discount System in Fond du Lac..... 205
McCarter, Thomas N., Address of, at the Minneapolis Convention, National Commercial Gas Association 115
*McKee, G. W., Distillation of Water, The..... 404
*Measurement of Gas in Large Volumes, The, Committee Report, American Gas Institute, Dr. J. F. Wing, Chairman ..... 4
Medium Pressure Line, British Thermal Unit Losses on, by W. O. Brewer..... 220
Metal Spraying ..... 28
*Meter Man, Woes of the..... 403
Metallurgical Smoke ..... 172
Miner, Dr. H. S., Chemistry of the Incandescent Gas Mantle ..... 65
Modern Gas Composition, Essentials of, by William Cranfield ..... 307
Motor Fuel, Benzol as a..... 98
Motor Fuel, Naphthalene as a..... 74
Motor Fuel, Peroxidized Kerosene as..... 183
Municipal Plant Need Not Necessarily Be a Profitable Venture ..... 12


## N


Naphthalene as a Motor Fuel..... 74
*N. A. S. O. Standard First Aid Jar, The, by M. W. Alexander ..... 11
Neutral Oil from Coal Tar..... 374
*New Bedford Gas and Edison Light Company, Office Building of the..... 113
*New Coal Gas Installation at Fall River, The, by C. W. Hunter..... 145

NEW METHODS AND APPLIANCES—

*Alarm or Tell-tale for the Exhauster, An..... 189
Alloy, A New..... 189
*Arc Lamp Semi-Indirect Converter..... 285
Babbitt Metals, The Pouring of..... 285
*Bending Small Pipe, Device for..... 413

# INDEX TO VOL. CII.


Boiler Manufacturers Adopt A. S. M. E. Specifications ..... 269
Bursting Flywheels May Cause Boiler Explosions. 189
Case-Hardening, Local ..... 93
*Coal Calorimeter, A New..... 205
*Coal Gas Bench Control, The Eastman..... 301
Coal, Weathering of..... 45
*Combination Ratchet Wrench and Drill..... 333
*Corroded Steel Tank, Repairing a..... 125
*Corrugated Nut and Lock Washer..... 13
Current from Dry Batteries, Cost of..... 269
Daylight-Saving Movement at Chicago..... 45
*Draw Crucible Furnace..... 77
Electric and Combustion Furnaces Compared.... 205
Electrolytic Iron ..... 253
*Emergency Lamp, An..... 141
English Patent Furnace..... 13
*First Aid Kit, A New..... 253
Flashlight Powder, New..... 45
Fuel Value of Woods..... 141
Gas and Steam Engines, Relative Economy of.. 61
Gas Engine, A 2 and 4-Cycle..... 93
*"Gas Plug," An English..... 157
Hacksaw Blade, An Interesting Test of a 10-Inch 173
Hard Concrete Floor..... 109
High Pressure Gas Lighting at the Panama-Pacfic International Exposition ..... 152
*Hotel Units, An Unusual Installation of..... 237
Hydraulic Blasting Cartridge..... 125
Insulation of Oven Walls..... 221
*Internal Guide for Pipe Stock..... 381
*Knuckle Guard for Wheelbarrow Handles..... 269
Lathe Tools, Specially Hard..... 173
Lead Joints, A New Way to Make..... 61
*Leaks, Method of Locating..... 221
*Lining Pipe with Cement..... 397
Longer Cast Iron Pipe, Experience with..... 317
*Measuring Temperatures by Melting Metallic Salts ..... 93
*Meter Provers, Improvement in..... 237
Metric Units ..... 157
One Yard of Concrete, Detail Estimate of the Cost of ..... 333
Paint on the Panama Canal Lock Gates, Experience with ..... 29
Pipe Couplings for Gas..... 413
Pipe Lines in Alkali Soils, Protection of..... 157
Prepayment Electric Meters in Holland..... 253
*Prime Movers in America..... 221
*Quick-Acting Screwless Wrench..... 381
Rapid Enameling Process..... 301
Rutile Deposits Yield Titanium..... 173
*Safe Handle for Wheelbarrows..... 173
*Safety Roller, A..... 45
Saving Fuel by Reducing Size of Steam Piping.. 237
Sawdust, A Use for..... 397
Silica-Graphite Paint in Boilers..... 381
Stainless Non-Rusting Steel..... 221
Starting Small Gas Engines..... 141
Steel Pipe Figures..... 189
Steel Stack, The Largest..... 109
Stopping Air Leaks in Boiler Settings..... 317
Temperatures, Extra High..... 29
*Thermostatic Feed Water Regulation..... 109
*Tight Manhole Cover, A..... 61
Used Lubricating Oils..... 413
Welding Malleable Castings..... 29
Welsbach Exhibit ..... 269
New Jersey Gas Progress, by Charles H. Butcher... 266
New Koppers Ovens for Youngstown..... 349
Norman, O. E., Service, Charge and Rate of Return of Public Utilities, Factors Involved in Establishing ..... 263
Northampton, Mass., Rate Case..... 154

NOTICES, OFFICIAL—

Empire State Gas and Electric Association..... 121
Illinois Gas Association.....105, 153, 168, 313
Indiana Gas Association.....89, 105, 136, 153
Iowa District Gas Association.....200, 217, 233, 281, 297, 313, 320
Natural Gas Association of America....281, 297, 313
New England Association of Gas Engineers,.9, 41, 56, 89, 105
New Jersey State Gas Association.....41, 56, 233
Pennsylvania Gas Association.....41, 56, 89, 105, 200, 217
Wisconsin Gas Association.....9, 24, 41

## O

*Office Building of the New Bedford Gas and Edison Light Company..... 113
Oil Production a Record Breaker..... 43
*Outdoor Lighting, Report of National Commercial Gas Association Committee on, Alonzo P. Ewing, Chairman ..... 117
*Ovens, By-Product, at Baltimore, Md..... 27
Owens, H. Thurston, Education, The Benefits of... 278
*Owens, H. Thurston, Good Lighting Gives Prestige to the Product..... 209
Owens, H. Thurston, Writing Technical Articles..... 1

## P

Pacific Gas and Electric Company Valuation Methods. 179
Patent Issues, Recent....13, 29, 76, 93, 125, 157, 189, 237, 253, 333, 381, 396
Peat in Italy, Utilization of..... 125
Pennsylvania Show, The..... 278
Petroleum, Increased Gasoline Yield and Toluol from 156
Peroxidized Kerosene as a Motor Fuel..... 183
*Photometry of Incandescent Lamps, by J. W. Roper 178
Pierce, Robert Ffrench, Gas-Electric Fixtures, Is the Sale of, by Gas Companies, Desirable?..... 69
Pierce, Robert Ffrench, Residence Lighting, with Special Reference to Semi-Indirect Illumination.... 322
*Pierce, Robert Ffrench, Semi-Indirect Lighting, A Popular Talk on..... 369
Pile Foundation, Concrete..... 235
Pipes and Wires, Subways for..... 76
*Pipes for High Pressure Gas, Sizes of, by J. M. Spitzglass ..... 49
Piping Houses for Gas Lighting, by H. R. Sterrett.. 87
*Power Plant Oil Filter..... 284
Practical Ideals, by George Otis Smith..... 325
Pressures, German Association on..... 12
*Prize-Winning Float ..... 380
Promoting Friendly Relations with the Public, How the Shops can Assist the Commercial Department in, by H. E. Turner..... 380
Puolications .....13, 252
Public Service Employees, Advertising Influence of, by R. O. Jasperson..... 359
*Pumping Water by Compressed Air, by G. C. Thompson ..... 251
*Pump, Rotary, with Automatic Adjustment for Wear ..... 210
*Purves, G. T., Fractional Collection of Crude Tar.. 387
*Pure Water Gas Production..... 124

## R

*Range Maker Always Does His Share, The..... 258
Rate, Industrial, Based on Maximum Demand..... 283
Rate Case, Northampton, Mass..... 154
Reflection from Painted Surfaces, by Dr. Louis Bell 91
Refrigeration by Gas, by H. M. Soper..... 412
Regulation, by W. J. Calhoun..... 294
*Reinicker, C. E., Distribution Employees, The Improvement of ..... 33
*Reinicker, C. E., Lead Wood as Jointing Material.. 242
Relations with Customers..... 149
*Remy, Jean S., Domestic Science Department, Brooklyn Union Gas Company..... 97
Rented Gas Ranges..... 326
Report of Committee on Affiliation with the Institute, Illinois Gas Association..... 212
*Report of Committee on Differential Rates, National Commercial Gas Association, F. W. Frueauff, Chairman ..... 18
Report of Industrial Fuel Committee, National Commercial Gas Association, Henry O. Loebell, Chairman ..... 3
*Report of National Commercial Gas Association Committee on Outdoor Lighting, Alonzo P. Ewing, Chairman ..... 117
Report of the Committee on "Distribution," Iowa District Gas Association..... 403
Report of the Direcctor of the Bureau of Standards. 108
Residence Lighting, with Special Reference to Semi-Indirect Illumination, by R. F. Pierce..... 322
Results of the War for Public Service Commissions to Consider, by Henry Floy..... 60
*Richardson, R. B., Inclined Retorts..... 306
*Roper, J. W., Photometry of Incandescent Lamps... 178
*Rotary Pump with Automatic Adjustment for Wear. 210
Russian Gas Business, German Influence in..... 220
Russian Gas Works, Ammonia Plant for, by "Our Own Correspondent"..... 101

## S

Safety Reminders ..... 410
Sampling for Average Gas..... 317
Science in the Daily Press, by J. S. Dow..... 397
Selling Force, How to Select, Train and Hold Your. 166
*Semi-Indirect Lighting, A Popular Talk on, by Robert Ffrench Pierce..... 369
Service, Charge and Rate of Return of Public Utilities, Factors Involved in Establishing, by O. E. Norman ..... 263
*Shattuck, J. D., Welding of High Pressure Mains, 54, 66
*Shepard, J. C., Industrial Gas..... 194
Shops can Assist the Commercial Department in Promoting Friendly Relations with the Public, How the, by H. E. Turner..... 380
*Show Window Lighting in War Time, by J. S. Dow 305
Small Consumer a Problem, The, by A. D. Dudley.. 332
Smith, George Otis, Practical Ideals..... 325
Smoke, Metallurgical ..... 172
Soft Coal Under Boilers, Burning..... 139
Soper, H. M., Refrigeration by Gas..... 412
Special Current, Need Not Supply..... 60
*Spitzglass, J. M., Pipes for High Pressure Gas, Sizes of ..... 49
Spraying Metal ..... 28
Standardization of Gas Appliance Specifications..... 140
*Steam, Exhaust, in a Water Gas Plant, Possible Economies from the Use of, by S. A. Reinhard and C. A. Schnerr..... 226
Sterrett, H. R., Piping Houses for Gas Lighting.... 87
*St. Petersburg, Florida, Gas Plant, The..... 241
*Straightening a Tall, Leaning Factory Chimney, by Thomas S. Clark..... 331
*Street Lighting, Chicago, by Pierre E. Haynes.... 316
Street Lighting, Contracts for..... 2
Subways for Pipes and Wires..... 76
Suggestions for a Uniform State Workmen's Compensation Law ..... 92
Sulphate of Ammonia, Discoloration of..... 92
Synthetic Crude Oil..... 156

## T

*Tar, Crude, Fractional Collection of, by G. T. Purves ..... 387
Tar, Explosives from..... 279
Tar Products, Explosives from..... 197
Technical Articles, Writing, by H. Thurston Owens.. 1
Temperature Conditions in Coke Ovens..... 61
Theory of the Coking Process..... 90
*Thompson, G. C., Pumping Water by Compressed Air ..... 251
*Timer for Water Gas Generator..... 155
*Toluene Recovery Plant at Beckton, England..... 332
*Turbine, The Internal Combustion..... 324
Turner, H. E., How the Shops can Assist the Commercial Department in Promoting Friendly Relations with the Public..... 380

## U

Uniform State Workmen's Compensation Law, Suggestions for a..... 92
Use of Gas, What is Being Done by Manufacturers of Appliances to Encourage the, by Stanley Grady 87
*United Gas Improvement Company Flag Raising.... 397
Utilities Commission News....15, 31, 47, 63, 79, 95, 111, 127, 143, 159, 175, 191, 207, 223, 239, 255, 271, 287, 303, 319, 335, 351, 367, 383, 399, 415
Utilization of Peat in Italy..... 125

## V

Valuation Methods, Pacific Gas and Electric Company 179

## W

Walker, James H., President Wisconsin Gas Association, Address of..... 81
War-Born Processes ..... 413
*War on Coal Ranges..... 77
War Prices for Gas..... 246
*Washington Gas Show..... 355
*Water Gas Generator, Timer for..... 155
*Water Gas Production, Pure..... 124
*Water Gas Set, The Automatic Operation of a, by C. F. Zeek..... 395
Water Gas Tar at Amsterdam, Centrifugal Dehydration of ..... 349
Water Heating by Gas, by C. E. Bartlett..... 310
*Water Heating, Wholesale..... 45
Water, Iron in..... 362
*Water, The Distillation of, by G. W. McKee..... 404
Willien, L. J., Coal Gas Candle Power..... 219
Wisconsin Gas Association, Fourteenth Annual Convention ..... 57
*Woes of the Meter Man..... 403

## Z

*Zeek, C. F., Automatic Operation of a Water Gas Set, The ..... 395
Zinc as a Boiler Cleaner..... 365